

REMARKS

Claims 1-46 were pending in the application. By way of this amendment, claims 34, 40-42, and 45-46 have been cancelled. Therefore, claims 1-33, 35-39, and 43-44 are now pending for reconsideration.

Claims 12-14, 16, and 17 were objected to for failing to further limit the subject matter of their base claims. Claims 12-14, 16, and 17 have been amended to correct this informality.

Claims 18-20 and 30 were rejected under 35 U.S.C. § 101. Claims 18-20 and 30 have been amended to recite a "computer-readable storage medium." As these claims are now directed to an article of manufacture, withdrawal of the rejection under 35 U.S.C. § 101 is respectfully requested.

Claim 9 was rejected under 35 U.S.C. § 112 as being indefinite for use of the term "substantially." Claim 9 has been amended to remove the term "substantially." Therefore, withdrawal of the rejection under 35 U.S.C. § 112 is respectfully requested.

Claims 1-3, 6, 10, 11, 14, 15, 17, 18-24, 26-46 were rejected under 35 U.S.C. § 102 as anticipated by Ambe (U.S. Patent Pub. 2002/009083). Claims 4-5 were rejected under 35 U.S.C. § 103 as unpatentable over Ambe in view of Kato (U.S. Patent No. 6,649,999). Claims 7, 8, and 12 were rejected under 35 U.S.C. § 103 as unpatentable over Ambe in view of Doherty (U.S. Patent No. 6,101,170). Claims 9 and 13 were rejected under 35 U.S.C. § 103 as unpatentable over Ambe in view of Tasman (U.S. Patent No. 7,116,640). Claim 16 was rejected under 35 U.S.C. § 103 as unpatentable over Ambe in view of Leung (U.S. Patent No. 6,781,955). Claim 25 was rejected under 35 U.S.C. § 103 as unpatentable over Ambe in view of Iyer (U.S. Patent No. 7,136,926).

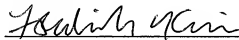
The present invention improves the efficiency of packet processing during routing and bridging by: (i) the use of cross-linked state tables; and (ii) the embedding of indices in a data structure that travels with the packet. The claims have been amended to more particularly recite these two features. In particular, claims 1-23 recite a first state table

(routing table or address resolution table) and a second state table that is cross-linked with the first state table and indexed with an address resolution table index. When a packet is processed for routing or bridging, an address resolution table index is obtained from the first state table and the obtained address resolution table index, which represents an index into the second state table for locating an entry in the state table, is stored in a data structure associated with the packet. Claims 24-33 and 35-39 recite the use of the address resolution table index stored in the data structure associated with the packet. Claims 43-44 recite the step of storing an address resolution table index in an address resolution table in association with a media access control address, so that an entry in a state table that is indexed with an address resolution table index can be easily located.

None of the cited references teach or suggest the features of the present invention highlighted above. The examiner indicates in the Office Action that the "next Hop Mac address [disclosed in Ambe] is the address resolution table index." Applicants respectfully disagree. In the present invention, a state table is indexed with an address resolution table index. This means that an entry in such a state table can be easily accessed using the address resolution table index. The "next Hop Mac address" disclosed in Ambe does not constitute a table index but is merely a table entry.

In view of the foregoing, claims 1-33, 35-39, and 43-44 are patentable over the cited references, and an early notice of allowance is respectfully requested.

Respectfully submitted,



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